DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 2025

TO: Technical Director
FROM: Savannah River Site Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending April 4, 2025

Staff Activity: A member of the Board's staff was on site for routine oversight activities.

Savannah River Tritium Enterprise (SRTE): Personnel improperly performed a procedure to add a gas mixture to a container, leading to a protective rupture disk bursting. The procedure instructed operators to close the supply valve if a certain condition was met; however, an operator questioned the procedure, marked that step as not applicable, and left the valve open. Then, operators inadvertently opened another valve that should have remained closed per the procedure. These two errors caused the pressure in the system to increase rapidly, leading to the rupture disk bursting to prevent an unsafe pressure in the system. The operators closed the second valve, and notified management, and a timeout was called. During the issue investigation meeting, SRTE personnel noted that failure to adhere to procedures was the direct cause. Other contributing factors included a missed opportunity to pause for clarification on whether to close the first valve, a lack of emphasis on those steps in the procedure during the pre-job brief, and the use of an informal rather than a formal pre-job brief for this infrequent operation.

SRTE personnel also held an issue investigation for missed radiological surveys of incoming tritium-producing burnable absorber rods, which contain tritium that SRTE extracts. In early 2025, SRTE personnel modified a procedure to account for one of the radiological survey devices being out of service. However, SRTE personnel did not perform the required backup radiological surveys of the incoming shipment. While performing an extent-of-condition review of this recent error, SRTE personnel realized that they had also performed a radiological survey incorrectly in 2023. At the issue investigation meeting, SRTE personnel determined that the 2023 missed survey was due to the various procedures not properly linking to each other and the relevant personnel not knowing all the necessary steps of the survey. Additionally, SRTE personnel also determined that the survey is not relied upon for any personnel protection; rather, it was likely a legacy requirement from the startup of the tritium extraction facility in 2006. Therefore, SRTE personnel intend to evaluate whether removing the survey requirement would be justified.

H-Canyon: While repairing booster supply fans at H-Canyon, maintenance personnel violated controls intended to protect them from the inadvertent operation of the fans. Instead of isolating the fans via a lockout/tagout, H-Canyon work planning personnel established a prohibited area underneath the fans. Due to ambiguity in the work planning documentation, H-Canyon personnel used a single cone to mark the prohibited area that was not to be entered. However, while performing the work, H-Canyon maintenance personnel moved the cone and entered the prohibited area. At the issue investigation meeting, H-Canyon personnel noted that maintenance personnel missed an opportunity to call a timeout when they realized they could not perform the work without entering the prohibited zone. H-Canyon personnel also found that the setup of the barricade for the prohibited area was poor. Finally, H-Canyon personnel noted that using a proper lockout/tagout would have avoided this issue altogether.